

**ABSTRACT**

A device and method for use with a centrifuge for fragmenting solute or particulate material contained in a liquid sample are disclosed. The device includes a substrate adapted to be supported within a centrifuge tube, and  
5 providing a microchannel defining a plurality of shear regions. Material contained in a liquid sample applied to the device, with such supported in a centrifuge tube within a centrifuge, is fragmented by shearing as the sample is forced successively through the plurality of shear regions in the microchannel, when the selected centrifugal force applied to the tube.